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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/538,617	03/29/2000	Gregory Graham	36512/CAG/G373	8377

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EXAMINER	
AGUIRRECHEA, JAYDI A	
ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 01/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/538,617	GRAHAM ET AL.	
	Examiner	Art Unit	
	Jaydi A. Aguirrechea	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

P riod for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *47-65* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *47-65* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 March 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "61, 58 and 59" have all been used to designate the shaft in figures 8 and 9.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 24, 18, 20, 35, 37 and 54.

A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 61 is objected to because of the following informalities: it is unclear to what metal it is referring; there is not sufficient antecedent basis for this limitation. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 47-50, 54 and 56-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margrain et al. (US 3805104) in view of Umeki (US 5130596).

Margrain discloses an inductive coil for an electromotive device comprising a pair of concentric conductive sheet metal winding portions comprising a plurality of axially extending conductive bands (A_n, R_n) each band separated by a space (Figure 2), the bands of one winding portion being coupled to one of the conductive bands of the other winding portion (A_1 coupled to R_1).

However, it fails to disclose the winding portions being encapsulated in a non-layered material that extends from a space between two adjacent conductive bands of said one of the winding portions to a space between two adjacent bands of the other winding portion.

Umeki teaches the winding portions encapsulated in a non-layered material that extends from a space between two adjacent conductive bands (5a, 5b) of one of the windings to a space between two adjacent bands of the other winding portion for the purpose of supporting the windings and not permitting the commutator segments and the armature coil to be separated from each other even when a strong tensile force is exerted on their connection portions.

It would have been obvious to one skilled in the art at the time the invention was made to use the non-layered material disclosed by Umeki on the inductive coil disclosed by Margrain for the purpose of supporting the winding and not permitting the commutator segments and the armature coil to be separated from each other even when a strong tensile force is exerted on their connection portions.

7. With regards to claim 48, the combination of Margrain and Umeki discloses the winding portions being encapsulated in a potting material.

8. With regards to claim 49, Umeki discloses the potting material being a polyimide.

9. With regards to claim 50, the combination of Margrain and Umeki discloses an insulator disposed between the winding portions.

10. With regards to claims 54 and 56-58, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the coil dimensions as claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

11. With regards to claims 59 and 60, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the material properties as claimed since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin,* 125 USPQ 416.

12. Claims 51-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margrain et al. in view of Umeki as applied to claim 50 above, and further in view of Karol (US 3650021).

Margrain and Umeki discloses the claimed invention except for the non-conductive filament wrapped around an outer surface of one of the windings, this non-conductive filament comprising a glass fiber and the thickness of the filament being about 0.00030-0.00075 inch.

Karol discloses a non-conductive filament (11) wrapped around an outer surface of one of the windings (10), and the filament comprising a glass fiber (column 2, lines 1-2) for the purpose of supporting the windings.

It would have been obvious at the time of the invention was made to use a glass fiber wrapped around an outer surface of the windings for the purpose of supporting the windings.

13. With regards to claim 53, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the filament with a thickness of 0.00030-0.00075 inches since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

14. Claim 55 is rejected under 35 U.S.C. 103(a) as being unpatentable over Margrain et al. in view of Umeki as applied to claim 47 above, and further in view of Toshiba (JP 05328678A).

The combination of Margrain and Umeki discloses the claimed invention except for the conductive sheet metal winding comprising precision machined and rolled copper. The conductive sheets (4) that Toshiba discloses comprise precision machined and rolled copper (Abstract) for the purpose of improving dimensional accuracy between the respective coils.

It would have been obvious at the time of the invention was made to modify the inductive coils of Margrain and Umeki and provide with the precision machined and rolled copper as disclosed by Toshiba for the purpose of improving dimensional accuracy between the respective coils.

No patentable weight has been given to the method of manufacturing limitations (precision machined and rolled) since even though product-by process claims are limited by and defined by the process; determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is

unpatentable even though the prior product was made by a different process. *In re Thorpe, 777* F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

15. Claims 61-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over (Margrain et al. in view of Umeki as applied to claim 47 above, and further in view of Kliman (US 5793138).

The combination of Margrain and Umeki discloses the claimed invention except that it does not show that the electrical insulation comprises an anodized outer surface of the flywheel, the anodized outer surface being in contact with the interior portion of the induction coil.

Kliman discloses the electrical insulation comprising an anodized inner surface of the induction coil (Column 4, line 66-Column 5, line2) and the anodized surface being in contact with the exterior portion of the flywheel. It would have been obvious at the time of the invention was made to anodize the outer surface of the flywheel instead of the inner surface of the induction coil since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein,* 8 USPQ 167. It would have been obvious at the time of the invention was made to make the flywheel of anodized aluminum since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

16. Claims 64 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margrain et al. (US 3805104) in view of Umeki (US 5130596) above, and further in view of Koechlin (US 3562569).

The combination of Margrain and Umeki discloses the claimed invention except for the insulator being a porous to the non-layered material. Koechlin discloses the use of porous

materials as insulator for the purpose of improving the cooling of the copper conductors since they provide an even temperature distribution along the windings.

It would have been obvious at the time of the invention was made to use a porous non-layered material as insulator in the inductive coil disclosed by Margrain and Umeki for the purpose of improving the cooling of the copper conductors.

Response to Arguments

17. Applicant's arguments filed on 10/31/03 have been fully considered but they are not persuasive.

18. In response to applicant's argument that the combination of Margrain and Umeki will not lead to the invention, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In the instant case, Umeki teaches the use of the non-layered material for the purpose of supporting the windings.

19. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir.

1992). In this case, Umeki discloses the use of the non-layered material for supporting the windings (Column 1, line 20).

20. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, Margrain teaches the conductors and there is enough motivation to combine with a non-layered potting as Umeki discloses.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaydi A. Aguirrechea whose telephone number is 703-305-2277. The examiner can normally be reached on M-Th 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Burton S. Mullins can be reached on 703-305-7063. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JAA
12/16/03